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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,068	01/28/2004	Tadashi Nakamura	10873.1395US01	5467

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Hamre, Schumann, Mueller & Larson, P.C.  
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Minneapolis, MN 55402-0902

EXAMINER
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KHAN, ASHER R

ART UNIT	PAPER NUMBER
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4134

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/767,068	<b>Applicant(s)</b> NAKAMURA ET AL.	
	<b>Examiner</b> ASHER KHAN	<b>Art Unit</b> 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/26/2004</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawing 16 and 19 are objected to because it contains wrongly numbered FsUniqueID 201 instead of 200. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Figures 30-31 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

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"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

**Claims 24-31** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 24-31 define computer program providing medium embodying functional descriptive material. However, the claims do not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., “When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently computer program providing medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person.

**Claims 32-34** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 32-34 define recording medium embodying functional descriptive material. However, the claims do not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., “When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently recording medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,945,475 to Bruffey et al. ("Bruffey").

As to **claims 1, 13, 24 and 32**, Bruffey discloses a recording/reproducing apparatus, comprising:

a recording/reproducing part for recording or reproducing information with respect to a recording medium (Col. 2, Lines 49-51 and Col. 3, lines 10-24);

a file system information (Hierarchical Filing System) processing part for managing the information to be recorded or reproduced by the recording/reproducing part as a file, using file system information having a directory hierarchical structure capable of being referred to by a path name (Fig. 2 and Col. 3, Lines 10- 54);

and a contents management information (Catalog Tree) processing part for managing the directory and the file, using contents management information containing object management information referred to by object reference information (DirID or unique file number i.e. Key) on the path name (Col. 6, Lines 15-41; Col 7, lines 1-5), wherein when information on the recording medium is updated by the recording/reproducing part, the file system (Hierarchical Filing System) information processing part records information on the update in the file system information

(addition and deletion in file data), and the contents management information (Catalog tree) processing part records the same information as the information on the update in the object management information (Col. 2, lines 8-16).

As to **claims 2, 14, 25 and 33**, Bruffey further discloses wherein, in a case where a new directory or a new file is recorded on the recording medium, the directory or the file is assigned a unique ID (DirID or unique file number i.e. Key) that is identification information not duplicated on the recording medium, and the assigned unique ID is used as the information on the update (Col. 6, lines 15-41).

As to **claim 3**, Bruffey discloses recording/reproducing apparatus according to claim 2, wherein the file system information processing part records the unique ID (DirID or unique file number i.e. Key) in an extended attribute (Fig. 6, Thread record, 109) in a file entry managing a structure of the directory or the file (Fig. 6, Structure 97), and the contents management information (Catalog Tree) processing part records the unique ID in the object management information so that the unique ID is associated with object reference information (Col. 2, lines 8-16).

As to **claims 4 and 15**, Bruffey further discloses wherein a value of the unique ID (DirID or unique file number i.e. Key) is determined by the file system information processing part (Col. 6, Lines 15-20).

As to **claims 5 and 16**, Bruffey discloses wherein a value of the unique ID (DirID or unique file number i.e. Key) is determined by the contents management information processing part (Col. 11, lines 31-34 and lines 54-61).

As to **claims 6, 17 and 27**, Bruffey further discloses wherein, in a case where the directory or the file referred to by the object reference information (DirID or unique file number i.e. Key) is detected not to be present in the directory hierarchy, the contents management information processing part searches the file system information (Hierarchical Filing System) for the same value as that of the unique ID recorded in the object management information, and when a directory or a file assigned the same value as that of the unique ID is detected, the contents management information processing part sets new object reference information in the object management information with respect to a path name of the directory(Col. 3, lines 25-54) 1(Col. 7, lines 44-65)(Col. 2, lines 8-16).

As to **claims 7, 18 and 28**, Bruffey further discloses wherein, in a case where the directory or the file referred to by the object reference information (DirID or unique file number i.e. Key) is detected not to be present in the directory hierarchy, the contents management information processing part searches the file system information for the same value as that of the unique ID recorded in the object management information, and when a directory or a file assigned the same value as that of the unique ID is not detected, the contents management information processing part deletes the object management information from the contents management information (Col. 3, lines 25-48) (Col. 7, lines 44-65)(Col. 2, lines 8-16).

As to **claims 8, 19 and 26**, Bruffey further discloses wherein, in a case where information in a volume managed by the file system information is updated by the recording/reproducing part on the recording medium (Col. 1, lines 50-54), the file



system information processing part updates volume update information contained in volume structure information managed by the file system information, and the contents management information processing part records the same information as the volume update information in the contents management information (Figs. 6, 7 and 8).

As to **claims 9, 20 and 34**, Bruffey discloses wherein the volume update information includes at least one selected from the group consisting of:

- (1) information representing a last update date and time of the volume (Col. 8, lines 34-35);
- (2) information representing a maximum value of a unique ID (highest Key) that is identification information not duplicated on the recording medium, contained in the file system information (Col. 4, lines 27-31);
- (3) a total number of files contained in the file system information (Fig. 2, Files 21-24); and (4) a total number of directories contained in the file system information (Fig. 2, directories 17-20).

As to **claims 10, 21 and 29**, Bruffey further discloses wherein, in a case where the volume update information contained in the volume structure information managed by the file system information(Hierarchical Filing System) is not matched with the information in the contents management information (Catalog Tree), the contents management information processing part searches the file system information for the same value as that of the unique ID recorded in the object management information, and when a directory or a file assigned the same value as that of the unique ID is detected, the contents management information processing part sets new object

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reference information in the object management information with respect to a path name of the directory or the file assigned the same value as that of the unique ID (Col. 3, lines 25-54)(Col. 4, lines 27-54)(Col. 7, lines 44-65)(Col. 2, lines 8-16).

As to **claims 11, 22 and 30**, Bruffey further discloses wherein, in a case where the volume update information contained in the volume structure information managed by the file system information (Hierarchical Filing System) is not matched with the information in the contents management information (Catalog Tree), the contents management information processing part searches the file system information for the same value as that of the unique ID (DirID or unique file number i.e. Key) recorded in the object management information, and when a directory or a file assigned the same value as that of the unique ID is not detected (Key not found) , the contents management information processing part deletes the object management information from the contents management information(Col. 3, lines 25-55) (Col. 4, lines 27-54)(Col. 7, lines 44-65)(Col. 2, lines 8-16).

As to **claims 12 and 23 and 31**, Fuller discloses wherein, in a case where the volume update information contained in the volume structure information managed by the file system information (Hierarchical Filing System), is not matched with the information in the contents management information (Catalog Tree), the recording/reproducing part stops recording of a new directory or a new file on the recording medium (Col. 3, lines 25-55)(Col. 4, lines 27-54)(Col. 7, lines 44-65)(Col. 2, lines 8-16).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHER KHAN whose telephone number is (571)270-5203. The examiner can normally be reached on Monday-Friday 9:30 am - 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lun Yi can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K./  
Examiner, Art Unit 4134

/LUN-YI LAO/  
Supervisory Patent Examiner, Art Unit 4134

